30 Important Questions

1. 2100 – 1000 + 99 equals

(A) 999 (B) 1099

(C) 1999 (D) 1199

Ans . D)

2100 – 1000 + 99

= 1100 + 99

= 1199

2. The integer 246 is exactly divisible by

(A) 8 (B) 6

(C) 9 (D) 7

Ans. D)

$\frac{246}{6} = 41$

3. Sushant wants to place 45.5 kg of food grains in small bags. If each bag holds 0.5 kg, how many bags are needed?

(A) 71 (B) 91

(C) 16 (D) 61

Ans. D)

Number of bags $= \frac{45.5}{.5} = \frac{455}{5} = 91$

4. $2+\frac{1}{2}+\frac{1}{5}+\frac{1}{10}$ is equal to

(A) $\frac{18}{10}$ (B) $1\frac{2}{15}$

(C) $\frac{10}{18}$ (D) $1\frac{16}{5}$

Ans. A)

$2+\frac{1}{2}+\frac{1}{5}+\frac{1}{10}=\frac{10+5+2+1}{10}=\frac{18}{10}$

5. Which one of the following gives an odd integer?

(A) 6^2 (B) 29 – 15

(C) 9 × 12 (D) 7 × 41

Ans. D)

6^2= 36, 29 – 15 = 14, 9 × 12 = 108, 7 × 41 = 287

6. The largest number in the set {0.02, 0.3, 0.04, 0.05, 0.6} is

(A) 0.02 (B) 0.04

(C) 0.3 (D) 0.6

Ans D)

7. If the numbers $\frac{7}{3}$, 71% and 0.601 are arranged from smallest to largest, the correct order is

(A) $\frac{7}{3}$, 71%, 0.601 (B) 71%, 0.601, $\frac{7}{3}$

(C) 0.601, $\frac{7}{3}$, 71%, (D) 0.601, 71%, $\frac{7}{3}$

Ans. D)

In decimal form, $\frac{7}{3} = 2.33$ and 71% = .71. Arranging the given numbers from smallest to largest, we have 0.601, 71%, $\frac{7}{3}$,

8. The average of 20, 5, 7, 8, and 5 is

(A) 17 (B) 18

(C) 14 (D) 7

Ans. D)

$\frac{20+5+8+7+5}{5} = \frac{45}{5} = 9$

9. In 2019, the population of city A was 20.2 million. Which number is the same as 20.2 million?

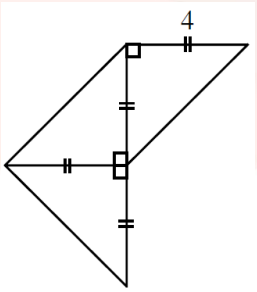
(A) 20 200 000 (B) 202 000 000

(C) 20 200 (D) 202 000

Ans. A)

it is necessary to multiply 20.2 by 1 000 000.

10. The area of the entire figure shown is



(A) 18 (B) 22

(C) 24 (D) 26

Ans. C)

There are three isosceles right angle triangle with side length of 4.

The area of one triangle $= \frac{1}{2}(4)(4) = 8$.

The total area of 3 triangle $= 3 \times 8 = 24$.

11. The value of $7 \times 8^2 - (6 \div 2)$ is

(A) 445 (B) 162

(C) 209 (D) 218

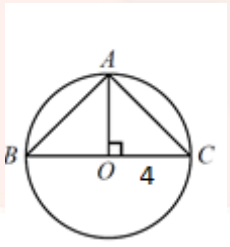
Ans .A)

Evaluating, $7 \times 8^2 - (6 \div 2)$

$= 448 - 3$

$= 445.$

12. *BC* is a diameter of the circle with centre *O* and radius 4, as shown. If *A* lies on the circle and *AO* is perpendicular to *BC*, the area of triangle *ABC* is



(A) 6.25 (B) 12.5

(C) 25 (D) 37.5

Ans . C

As we know that $OB = AC = OC = 4$. Thus, The required area is $2\left[\frac{1}{2}(4)(4)\right] = 16$.

13. Kanne, Veth and Chere have 10 candies to divide amongst themselves. Kanne gets at least 3 candies, while Veth and Cheru each get at least 2. If Cheru gets at most 3, the number of candies that Veth could get is

(A) 2, 3, 4 or 5

(B) 3 or 4

(C) 2 or 3

(D) 2

Ans .A)

If kanne gets at least 3 candies and Cheru gets either 2 or 3 this implies that Veth could get as many as 5 candies if Cheru gets only 2. If Cheru and Kanne increase their number of candies this means that Veth could get any number of candies ranging from 2 to 5.

14. Which of the following numbers is an odd integer, contains the digit 6, is divisible by 3, and lies between 11^2 and 13^2?

(A) 126 (B) 146

(C) 136 (D) 166

Ans. A)

Since $11^2 = 122$ and $13^2 = 169$,

The number contain 6 digit =
126,136,146,156,160,161,162,163,164,165,166,167,168,169

As per options only 126 is correct.

15. A box contains 26 pink, 28 blue, 6 green, 3 red, and 9 purple items that are identical in size. If a item is selected at random, what is the probability that it is green?

(A) $\frac{1}{6}$ (B) $\frac{1}{12}$

(C) $\frac{1}{7}$ (D) $\frac{1}{9}$

Ans. B)

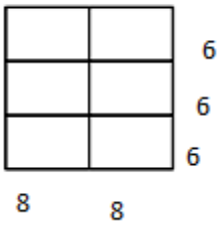
In total there are 72 items that have the same size.
Since there are 6 green items, the probability of selecting a green item is
$\frac{6}{72}$ or $\frac{1}{12}$.

16. Rectangular tiles, which measure 8 by 6, are arranged without overlapping, to create a square. The minimum number of these tiles needed to make a square is

(A) 4 (B) 6

(C) 5 (D) 8

Ans. B)



Since the rectangles measure 8 × 6 and sides are in a ratio of 4:3.. In total, we need 2 × 3 or 6 rectangles.

17. In a sequence of numbers, each term beginning with the third, is the sum of the previous two terms. The first number in such a sequence is 3 and the third is 10. What is the fifth term in the sequence?

(A) 71 (B) 17

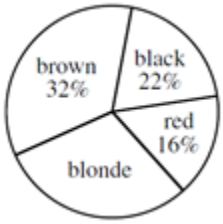
(C) 27 (D) 44

Ans. C)

If the first number in the sequence is 3 and the third is 10, the second number in the sequence must be 7.

The sequence is thus: 3, 7, 10, 17, 27, 44 … the fifth term = 27.

18. The results of a survey of in a city of the car color of 800 people are shown in the following diagram. How many people have black car?



(A) 140 (B) 176

(C) 190 (D) 110

Ans. B)

From the diagram, black represent 22% of the 800 people.

Since 22% of 800 = 176, there are 176 black cars in the survey.

19. The ratio of the number of big dolls to the number of small dolls at a dolls show is 3:17. There are 80 dolls, in total, at this dolls show. How many big dolls are there?

(A) 12 (B) 68

(C) 20 (D) 24

Ans. A)

Since the ratio of the number of big dolls to small dolls is 3:17. There are 3 large dogs in each group of 20. Since there are 80 dolls, there are four groups of 20. This means that there are 3× 4 or 12 large dolls.

20. Harish scored a total of 20 points in his basketball team's first three games. He scored 1 2 of these points in the first game and 1/10 of these points in the second game. How many points did he score in the third game?

(A) 8 (B) 12

(C) 13 (D) 10

Ans .A)

Harish scored 1/2 x 20 = 10 points in his first game. In his second game, he scored 1/10 x 20 = 2 points. In the third game, this means that he will score 20 – (2 + 10) = 8 points.

21. The product of two whole numbers is 22. The smallest possible sum of these two numbers is

(A) 8 (B) 12

(C) 13 (D) 15

Ans. C

If two whole numbers have a product of 22 then the only possibilities are 1× 22, 2 × 11, The smallest possible sum is 2 × 11 = 13.

22. Forty-two cubes with 1 cm edges are glued together to form a solid rectangular block. If the perimeter of the base of the block is 18 cm, then the height, in cm, is

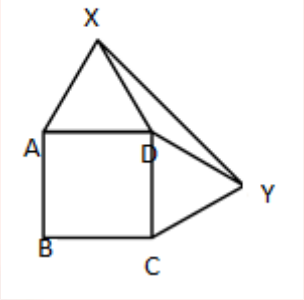
(A) 5 (B) 6

(C) 7 (D) 4

Ans. D)

Since we have a solid rectangular block with a volume of 42, its dimensions could be, 42×1×1 or 6×7×1 or 21×2×1 or 2×3×7 or 14×3×1. The only selection which has two factors adding to 9 is 2×3×7, thus giving the base a perimeter of 2(2 + 7) = 18 which is required. So the base is 2 × 7 and the height is 3.

23. *ABCD* is a square. Points *X* and *Y* are outside the square such that triangles *ADX* and *DCY* are both equilateral. The size, in degrees, of angle *XYD* is



(A) 20 (B) 15

(C) 30 (D) 35

Ans. B)

$\angle XDY = 360° - 90° - 60° - 60° = 150°$

Since ΔXDY is isosceles.

$\angle XDY = \frac{180° - 150°}{2} = 15°$

24. Consider the square given below, the numbers in each row, column, and diagonal multiply to give the same result. The sum of the two missing numbers is

12	1	18
9	6	4
		3

(A) 28 (B) 15

(C) 30 (D) 38

Ans .D)

The numbers in each row, column and diagonal multiply to give a product of (12)(1)(18) or 216. We are now looking for two numbers such that (12)(9)( )=216 and (1)(6)( )=216. The required numbers are 2 and 36 which have a sum of 38.

25. In a Indian Premier League, after each team has played every other team 4 times, the total accumulated points are: Mumbai 22, Delhi 19, Chennai 14, and Kolkata 12. If each team received 3 points for a win, 1 point for a tie and no points for a loss, how many games ended in a tie?

(A) 5 (B) 7

(C) 6 (D) 8

Ans . A)

When every team plays every other team there are $3 + 2 + 1 = 6$ games. Since each team plays each of the other teams 4 times, there are $4(6) = 24$ games. When there is a winner 3 points are awarded. If each of the 24 games had winners there would be $24 \cdot 3 = 72$ points awarded. The actual point total is $22 + 19 + 14 + 12 = 67$. When there are ties, only $1 + 1 = 2$ points are awarded and so every point below 72 represents a tie. Thus, the number of ties is $72 - 67 = 5$.

26. When the number 8 is doubled and the answer is then halved, the result is

(A) 2^1 (B) 2^2

(C) 2^3 (D) 2^4

Ans . C)

When the number 8 is doubled the result is 16.
When this answer is halved we get back to 8, our starting point. Since $8 = 2^3$, the correct answer is 2^3.

27. If $K > 2$ and $M > -1$, then which of the following statements is necessarily true?

(A) $KM < -2$

(B) $-K < 2M$

(C) $KM > -2$

(D) $K > 2M$

Ans. B)

Use choices. The answer is (b), because
$-K < -2$ and $-2 < 2M \Rightarrow K < 2M$.

28. Let N be the set of integers K such that

I. $100 \leq K \leq 200$,

II. K is odd and

III. K is divisible by 3 but not by 7.

How many elements does S contain?

(A) 9 (B) 15

(C) 13 (D) 16

Ans. C)

There are 33 numbers between 100 and 200 which are divisible by 3.

Out of these, 17 are even and 16 are odd.
There are 5 numbers between 100 and 200 which are divisible by 21 (LCM of 3 and 7). Out of these, 3 are odd.
Hence, the number of odd numbers divisible by 3, but not by 7 is (16–3) =13.

29. Let S be the set of prime numbers greater than or equal to 2 and less than 100. Multiply all elements of S. With how many consecutive zeros will the product end?

(A) 1 (B) 6

(C) 7 (D) 15

Ans. A)

There is only one 5 and one 2 in the set of prime numbers between 2 and 100. Hence, there would be only one zero at the end of the resultant product.

30. What is the number of distinct triangles with integral valued sides and perimeter 16?

(A) 8 (B) 4

(C) 6 (D) 9

Ans. C)

If the sides of the triangle are a, b and c, then a + b > c. Given a + b + c = 16.

Then the sides can be (5, 5, 6), (5, 4, 7), (6, 6, 4), (6 4 6), (6 3 7) and (6, 7, 3).